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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/037,674 03/09/98 MIZUHARA

H 2933SE-11-CI

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EXAMINER

NADAV, D

ART UNIT

PAPER NUMBER

2811

DATE MAILED:

02/23/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
09/037,674

Applicant(s)  
Mizuhara et al.

Examiner  
ORI NADAV

Group Art Unit  
2811



☒ Responsive to communication(s) filed on Jan 26, 2001

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 16-33 is/are pending in the application.

Of the above, claim(s) 16-24 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 25-33 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claim 25 is rejected under 35 U.S.C. 102(e) as being anticipated by Ning et al. (5,581,101).

Ning et al. teach in figure 34a a semiconductor device comprising a semiconductor substrate, wires (column 5, line 61 to column 6, line 3) located on the substrate, and a passivation layer covering the surface of the substrate and the wires, including a first insulating film comprising a boron impurity (column 8, lines 19-20).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (4,984,055) or Japanese patent (6-291202).

Okumura et al. teach in figure 13D a semiconductor device comprising a semiconductor substrate 1, wires 16 located on the substrate, and a passivation layer covering the surface of the substrate and the wires, including a first insulating film 13 comprising SOG and containing boron impurities (column 16, line 15), and a second insulating film 12 comprising oxide having a hygroscopicity lower than the first insulating film and being located on at least one of an upper side and lower side of the first insulating film. Japanese patent (6-291202) teaches in figure 1b a semiconductor device comprising a semiconductor substrate 11, wires 13 located on the substrate, and a passivation layer covering the surface of the substrate and the wires, including a first insulating film 15 comprising SOG and containing boron impurities (abstract), and a second insulating film 16 comprising silicon oxide having a hygroscopicity lower than the first insulating film and being located on at least one of an upper side and a lower side of the first insulating film.

Although Okumura et al. and Japanese patent (6-291202) do not explicitly state that layers 13 and 15, respectively, are passivation layers, layers 13 and 15 meet the functional limitations of the claim since they protect the wires. Therefore, the claimed invention is considered to be in at least obvious over Okumura et al. or Japanese patent (6-291202) device.

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Regarding claims 26, 29 and 32, although Okumura et al. and Japanese patent (6-291202) do not explicitly state that silicon oxide has a hygroscopicity lower than boron doped SOG, it is well known in the art that silicon oxide has a hygroscopicity lower than boron doped SOG, of which judicial notice may be taken.

Regarding the processing limitations recited in claim 28 ("decomposing organic components by the selected impurity"), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced. In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 25-33 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference O is cited as being related to inorganic SOG passivation layer.

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**Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.**

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**

*William Mintel*

**William Mintel**  
**Primary Examiner**  
**Art Unit 2811**

Ori Nadav, Ph.D.

February 16, 2001